

Abstract of the Disclosure

[0017] An article and method of producing an article for converting energy from one form to another having a pitch-derived graphitic foam carbon foam substrate and a single layer coating applied to all exposed surfaces wherein the coating is either silicon carbide or carbides formed from a Group IVA metal. The article is used as fully coated carbon foam susceptors that more effectively absorb radio frequency (RF) band energy and more effectively convert the RF energy into thermal band energy or sensible heat. The essentially non-permeable coatings also serve as corrosion or oxidation resistant barriers.